

JAN/FY06

FORT JACKSON
South Carolina

**Army Defense Environmental
Restoration Program
Installation Action Plan**

Final 18 April 2006

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions (RAs).

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Fort Jackson (FTJA), Installation Management Agency-Southeast Regional Office (IMA-SERO), executing agencies, and regulatory agencies, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore subject to change.

The following agencies contributed to the formulation and completion of this 2006 IAP for FTJA at a planning workshop held on 24 January 2006:

Company/Installation/Branch

Arcadis

EEI for USAEC

FTJA Restoration Program Manager, EEI

IMA - SERO

South Carolina Department of Health and Environmental Control (SCDHEC)

US Army Corps of Engineers, Savannah District

USAEC

Acronyms & Abbreviations

AEDB-R	Army Environmental Database, Restoration
AOC	Area of Concern
AST	Aboveground Storage Tank
CA	Corrective Action
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESAS	Savannah Corps of Engineers
CMI	Corrective Measures Implementation
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operation)
CMS	Corrective Measures Study
CS	Confirmatory Sampling
CTT	Closed, Transferring, and Transferred
cy	cubic yards
DD	Decision Document
DERP	Defense Environmental Restoration Program
DES	Design
DMM	Discarded Military Munitions
DoD	Department of Defense
DOT	Department of Transportation
DRMO	Defense Reutilization & Marketing Office
EOD	Explosive Ordnance Demolition
ER,A	Environmental Restoration, Army
FJFC	Fort Jackson Flight Club
FS	Feasibility Study
FTJA	Fort Jackson as designated in AEDB-R
FY	Fiscal Year
GFPR	Guaranteed Fixed Price Remediation
GW	Groundwater
HRR	Historical Records Review
HW	Hazardous Waste
IAP	Installation Action Plan
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operation)
INV	Investigation
ISC	Initial Site Characterization
IM	Interim Measure
IMA-SERO	Installation Management Agency-Southeast Regional Office
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long Term Management
LUC	Land-use Control
LNAPL	Light Non-aqueous phase liquid
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern

Acronyms & Abbreviations

MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List
O/W	Oil/Water Separators
OB/OD	Open Burn/Open Detonation
OMA	Operations and Maintenance Account
PA	Preliminary Assessment
PBC	Performance Based Contract
POL	Petroleum, Oil & Lubricants
RA	Remedial Action
RAC	Risk Assessment Code
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy In Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
RTCs	Response(s) to comments
SAR	SWMU Assessment Report
SARA	Superfund Amendments & Reauthorization Act
SCARNG	South Carolina Army National Guard
SCDHEC	South Carolina Department of Health and Environmental Control
SI	Site Inspection
SVOCs	Semi Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TAC	Tarry Asphalt Compound
TAPP	Technical Assistance for Public Participation
TASC	Training Aids Support Center
TCE	trichloroethylene
TPH	Total Petroleum Hydrocarbons
TRADOC	Training and Doctrine Command
TRC	Technical Review Committee
TRS	Tank Repair Shop
USACHPPM	US Army Center for Health Promotion and Preventive Medicine (formerly named USAEHA)
USAEC	US Army Environmental Center

Acronyms & Abbreviations

USAEHA	United States Army Environmental Hygiene Agency (currently named USACHPPM)
USATHAMA	US Army Toxic and Hazardous Material Agency (currently named USAEC)
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOCs	Volatile Organic Compounds
WP	Work Plan

Acronyms & Abbreviations

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) Acronym Conversions

CERCLA

Preliminary Assessment (PA)

=

RCRA

RCRA Facility Assessment (RFA)

Site Inspection (SI)

=

Confirmation Sampling (CS)

Remedial Investigation/
Feasibility Study (RI/FS)

=

RCRA Facility Investigation/Corrective Measures
Study (RFI/CMS)

Remedial Design (RD)

=

Design (DES)

Remedial Action (Construction)
(RA(C))

=

Corrective Measures Implementation
(CMI(C))

Remedial Action (Operation)
(RA(O))

=

Corrective Measures Implementation (Operation)
(CMI(O))

Long Term Management (LTM)

=

Long Term Management (LTM)

Interim Remedial Action (IRA)

=

Interim Measure (IM)

CERCLA and RCRA Underground Storage Tank (UST) Acronym Conversions

CERCLA

Preliminary Assessment (PA)

=

RCRA UST

Initial Site Characterization (ISC)

Remedial Investigation (RI)

=

Investigation (INV)

Feasibility Study (FS)

=

Corrective Action Plan (CAP)

Remedial Design (RD)

=

Design (DES)

Remedial Action (Construction)
(RA(C))

=

Implementation (Construction) (IMP(C))

Remedial Action (Operation)
(RA(O))

=

Implementation (Operations) (IMP(O))

Long Term Management (LTM)

=

Long Term Management (LTM)

Interim Remedial Action (IRA)

=

Interim Remedial Action (IRA)

Environmental Restoration, Army (ER,A) Active Sites – Army Environmental Database – Restoration (AEDB-R) to Solid Waste Management Unit (SWMU) and AOC Conversion

AEDB-R #	Site Title	SWMU #
FTJA-01	Active Sanitary Landfill	SWMU 1
FTJA-02	Inactive Sanitary Landfill 1	SWMU 2
FTJA-03	Inactive Sanitary Landfill 2	SWMU 3
FTJA-05	Inactive WETSITE Landfill	SWMU 5
FTJA-06	Tank Hill Landfill	SWMU 6
FTJA-10	Wonson OB/OD Ground	SWMU 12
FTJA-13	Weapons Cleaning Area	SWMU 14
FTJA-18	Inchon OB/OD Ground	SWMU 17
FTJA-21	Construction Debris Landfill, Range 17	SWMU 21
FTJA-23	Remagen Impact Area	SWMU 23
FTJA-30	Former Roads & Grounds Storage Area	SWMU 47
FTJA-32	Inactive Bldg 6586 Acid Pit	SWMU 48
FTJA-34	UST Sites	USTs #1, #4, #6 & #8
FTJA-36	Tanks 1619 & 1700	AOC B
FTJA-39	Former Weapons Pool Solvent Tank	SWMU 49
FTJA-40	Former Tank Repair Site	SWMU 52

Response Complete (RC) Sites - AEDB-R to SWMU and AOC Conversion

AEDB-R #	Site Title	SWMU #
FTJA-04	WETSITE Landfill	SWMU 4
FTJA-07	Former HW Stor Buildings 2640, 2641, 2642	SWMU 7, 8, 9
FTJA-08	PCB Storage Bldg 2668	SWMU 10
FTJA-09	Waste Oil Tanks	SWMU 11
FTJA-11	RST-4 OB/OD Ground	SWMU 13
FTJA-12	Former Cardbrd. Recycling Station Bldg 3580	-
FTJA-14	Veterinary Incinerator	SWMU 15
FTJA-15	Weston Lake Sewage Treatment Plant	-
FTJA-16	Former Sewage Treatment Plant	SWMU 16
FTJA-17	Former Used Oil Burning Boilers Plant 3	-
FTJA-19	Former TASC HW SAA	SWMU 19
FTJA-20	Former PCB Storage Area, Bldg 2569	SWMU 20
FTJA-22	Waste Solvent Cabinet	SWMU 18
FTJA-24	Old Rocket Grenade Range	SWMU 24
FTJA-25	Battery Storage Area	SWMU 27
FTJA-26	Energy Plant Drainage Area	SWMU 29
FTJA-27	Bldg F2182 Vehicle Wash Pad and O/W Sep	SWMU 34
FTJA-28	Bldg 9428 Vehicle Wash Pad and O/W Sep	SWMU 38
FTJA-29	Former Tank 5453	AOC A
FTJA-31	Shed 1617 Area	AOC C
FTJA-33	Bldg 1611 Vehicle Wash Pad & O/W Sep	SWMU 33
FTJA-37	Former Varsol UST	SWMU 30
FTJA-38	Single Soldiers Housing Complex	UST Site#22

Installation Information

Installation Locale: The US Army Training Center and FTJA is located in Richland County in central South Carolina. The installation is situated on the eastern edge of the City of Columbia, and covers an area of approximately 52,301 acres. The population for Columbia, including FTJA, is estimated at 286,000.

Installation Mission: Initial Entry Training of Troops and combat support Advanced Individual Training

Lead Organization: IMA-SERO

Lead Executing Agency: US Army Corps of Engineers, Savannah District

Regulatory Participation

Federal: US Environmental Protection Agency (USEPA), Region IV, and Federal Facilities Branch

State: SCDEHC, Bureau of Land and Waste Management

National Priorities List (NPL) Status: Not on NPL

Installation Restoration Advisory Board (RAB)/Technical Review Committee

(TRC)/Technical Assistance for Public Participation (TAPP) Status: No

RAB/TRC/TAPP has been established at this time.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Pesticides, Ordnance Constituents, Petroleum, Oil and Lubricants (POLs), Metals

Affected Media of Concern: Groundwater (GW), Soil, Surface Water, Sediment

Estimated Date for Remedy in Place (RIP)/RC: 2007/2017

Funding to Date (through FY05): \$23,365,700

Current Year Funding (FY06): \$2,009,100

Cost-to-Complete (FY07+): \$7,532,000

MMRP

Primary Contaminants of Concern: Ordnance Constituents

Affected Media of Concern: GW, Soil, Surface Water, Sediment

Estimated Date for RC: 2014

Funding to Date (up to FY05): \$718,500

Current Year Funding (FY06): \$0

Cost-to-Complete (FY07+): \$8,998,000

Cleanup Program Summary

Installation Historic Activity

FTJA is an active US Army Installation. The installation provides basic training for newly recruited soldiers and combat support advanced individual training, and it is the largest initial entry training center in the Army. In addition, the installation operates the US Army Soldier Support Institute, the US Army Chaplain Center and School, a reception battalion and a transfer point for US Army personnel, and provided support services for the South Carolina Army National Guard, the US Army Reserve Centers, and other tenant activities.

FTJA was first opened in 1917 as the 6th National Army Cantonment on a tract of land donated by the citizens of the City of Columbia. By 1918, some 45,000 military personnel were actively training at Camp Jackson. From 1925 to 1940, the facility was state-controlled and used as an encampment and training area for South Carolina National Guard troops. FTJA returned to Federal control in 1940 and was once again designated primarily for infantry training. During World War II, at least ten Army infantry divisions, estimated at 500,000 troops, received training at FTJA. In 1947, the installation was designated as one of four permanent Army replacement centers in the United States. In 1968, the installation was annexed into the City of Columbia, and in 1973 it was redesignated as the US Army Training Center & FTJA.

Current Activity

FTJA presently occupies 52,301 acres consisting of the original cantonment area in the west section of the installation and the weapon ranges, bivouac, and maneuver areas located throughout the remaining installation. The cantonment area encompasses post housing, administrative buildings, and industrial operations.

Tenants located at FTJA include the US Army Soldier Support Institute, US Army Chaplain Center and School, the South Carolina Army National Guard (SCARNG), US Marine Corps Reserve, Defense Reutilization and Marketing Office (DRMO), Military Entrance Processing Station, US Army Reserve 81st Regional Support Group, 157th Infantry Training Support Brigade, Defense Commissary Agency, Army and Air Force System Exchange, Medical Department Activity, and the Department of Defense (DoD) Polygraph Institute.

In 1988, the Army began investigating all potential areas of environmental concern at FTJA by implementing its environmental response authority under the CERCLA/ Superfund Amendments and Reauthorization Act (SARA). Having a preliminary Hazard Ranking System score of 13.2, FTJA did not warrant NPL Redesignation.

Cleanup Program Summary

In October 1991, FTJA was issued a RCRA Part B permit. Under the corrective action portion of the permit, investigation of inactive or closed sites redesignated as SWMUs and other AOCs were initiated.

IRP

- Prior Year Progress:
 - Completed Interim Measure (IM) Progress Reports and WP Addendums for FTJA-1, -2, -13 and -30, (SWMUs 1, 2, 14 and 47).
 - Performance Based Contract/Guaranteed Fixed Price Remediation (PBC/GFPR) contractor ARCADIS, continues to push forward with multiple documents, after award in September 2003, in spite of further SCDHEC personnel turnover.
 - Tier I partnering performance recovering momentum again after addition of new SCDHEC personnel in FY06.
 - Completed the RCRA Facility Investigation (RFI)-II Reports for FTJA-1,-3, -6, -8 and -21, plus the RFI-I Rpt for FTJA-7 and the Tier II Report for FTJA-38) and submitted to SCDHEC.
 - Responded to many state document comments and concerns on the above sites and received RC decisions on FTJA-7 (Clean Closure), -8 (Clean Closure), -28 NFA and -38 (NFA).
 - Corrective Measures Study (CMS) Report and CMI WP for FTJA-5 await RCRA Permit modification and upcoming 60 day Public Notice Period.
 - Deferred final remedial per SCDHEC guidelines work for FTJA-10, -18 and -23 until "Operational" ranges they are located on become "Non-Operational".
 - Completed Phase II RFI WP and proposed field work at FTJA-32 (SWMU 48).
 - Revised and re-submitted SWMU Assessment Report for FTJA-40 (SWMU 52).
 - SCDHEC required GW investigation at FTJA-40; WP submitted, approved and executed. Results led to further GW investigation requirements TBD
 - Initiated Long Term Management (LTM) at two of four UST sites remaining under FTJA-34, from the original 13 sites.
 - Submitted revised Corrective Action Plan (CAP) for FTJA-34, #1 and #6.
 - Submitted GW monitoring reports for FTJA-34, #1, #4, #6 & #8. Biox injections performed in FY04 at FTJA-34, #4, still appear to have mitigated POL impact allowing FTJA to return focus on MNA.
 - Molasses injections still being applied at FTJA-13; positive effects becoming quantifiable and monitoring continues.
 - FP bailing and GW monitoring continued at FTJA-30 and -36; IM WP Addendum to come.
 - Completed GW monitoring (4 qtrs) at FTJA-23 and -39 (SWMU 23 & 49), further work TBD in order to return focus on Monitored Natural Attenuation (MNA) in CMS.

Cleanup Program Summary

- Future Plan of Action: Reallocation of two prior year IMs for FTJA-10 and -23 to do erosion control on behalf of wetland, has been abandoned due to lack of a regulatory driver. The northern boundary of FTJA-10 will be delineated and any final remedies will be deferred until whole ranges that FTJA-12 and -23 sit on, are non-operational. Current work will be finalized and document with submission of a focused CMS, addressing the Land Use Controls (LUCs) currently in place at both sites.
- The PBC contractor has taken over all but 1 RFI site from prior year contractors (FTJA-32). CMS and CMI work plans (WPs) and reports will proceed from there. FTJA will continue working toward no further remedial action planned (NFRAPs), MNAs, IMs, and CMIs per PBC strategy.

MMRP

- Prior Year Progress: RFAs were completed at all MMRP sites.
- Future Plan of Action: The installation plans to complete the Site Investigation (SI) and RFI/CMS by 2010 and execute follow on phases/actions as required in the individual site cleanup strategies.

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Installation Restoration Program

Total AEDB-R IRP Sites / AEDB-R sites with RC: 40/26

Different Site Types:

2 VOC Contaminated GW Plumes	3 Explosive Ordnance Disposal Areas
1 Disposal Pit/Dry Well	2 Unexploded Munitions/Ordnance
1 Incinerator	8 Storage Areas
8 Landfills	1 Spill Site Area
3 Oil/Water Separators (O/W)	2 Sewage Treatment Plants
1 POL Line	3 Aboveground Storage Tanks (ASTs)
1 Surface Runoff	3 USTs (FTJA-34, 37 and 38)
1 Washrack	

Most Widespread Contaminants of Concern: POL, Metals and Solvents

Media of Concern: GW, Soil, Surface Water, Sediment

Completed Removal (REM)/Interim Remedial Action (IRA)/RA:

IRA	FTJA-23	Deferred by SCDHEC until range closes
CMI(C)	FTJA-23	Deferred by SCDHEC until range closes
IRA	FTJA-28	2002
IRA	FTJA-30	2001
IRA	FTJA-34	2002
IRA	FTJA-39	2002

Total IRP Funding

Prior years (up to FY05):	\$23,365,700
Current year funding (FY06):	\$ 2,009,100
Future Requirements (FY07+):	\$ 7,532,000
Total:	\$32,906,800

Duration of IRP

Year of IRP Inception: 1988
 Year of IRP RIP/RC: 2007/2017
 Year of IRP Completion including LTM: 2038

IRP Contamination Assessment

IRP Contamination Assessment Overview

FTJA has a total of 40 IRP sites listed in AEDB-R. However, AEDB-R site FTJA-7 includes three SWMUs (7, 8, and 9 combined), and FTJA-34 actually includes thirteen UST sites, designated as one AEDB-R number, of which four remain (4 of 13). There are 11 AEDB-R sites with detectable GW contamination. Delineation of these units is nearly complete. Risk assessments for the sites are underway. Ten of these sites may require additional monitoring in the foreseeable future FTJA-1, -2, -3, -5, -6, -13, -21, -23, -32 and -39).

There are now 27 AEDB-R sites with NFA planned (RC or NFRAP). Most recently in FY05 through early FY06, FTJA gained four additional NFRAP designations (FTJA-07, -08, -28 and -38). For FY03 two sites reached RC (FTJA-20 and 37), in FY01 five sites reached RC (FTJA-9, -26, -27, -31, & -33) and in FY99 sites FTJA-13 and FTJA-16, reached RC. The sites at FTJA include landfills, weapons cleaning/solvent sites, storage areas, acid neutralization drainage sites, and explosive ordnance disposal (EOD) sites. FTJA's primary contaminants are metals (Lead, Chromium and Arsenic), petroleum (fuels, oil, and lubricants) hydrocarbons, solvents (Trichloroethylene (TCE), and others), and ordnance constituents. These substances are found in varying concentrations at each of the particular SWMUs, AOCs, and UST sites. No off-post contamination exists or has been documented. No public interest in the IRP has been expressed after periodic advertisements soliciting interest in forming a RAB, per DoD and regulatory guidelines.

The IRP began in 1988. The Update of the Initial Installation Assessment of FTJA, prepared for the US Army Toxic and Hazardous Materials Agency (USATHAMA), was sent to USEPA and SCDHEC for review in March 1988. In June 1988, after receiving comments from both regulatory agencies, FTJA completed a field service request to the US Army Environmental Hygiene Agency (USAEHA) for the collection of soil and GW samples.

In July 1991, Geophex, Ltd., was tasked to prepare a Preliminary SI Report for FTJA. The final report, dated January 1992, was used by Advanced Sciences, Inc., to prepare a hazardous ranking score to determine potential listing on the NPL. The Environmental Protection Agency employs a cut-off score of 28.5 as a management tool for identifying sites that are candidates for the NPL. An overall score of 13.8 was computed for FTJA scoring well below the NPL cut-off line.

In October 1991, Ebasco Environmental was contracted to investigate soil and GW contamination at three former UST sites. Field activities included the installation of GW monitoring wells, a water level survey, and the collection of subspace soil and GW samples. The Final Engineering Report was completed in August 1992.

On October 5, 1991 the RCRA Permit became effective. In accordance with the RCRA permit guidelines, between December of 1991 and April of 1992, CS (RCRA equivalent of Site Inspection [SI]) and RFI (RCRA equivalent of Remedial Investigation [RI]/Feasibility Study [FS]) WPs) were prepared and submitted to the USEPA and the SCDHEC.

IRP Contamination Assessment

IRP Cleanup Exit Strategy

With the award of the PBC to ARCADIS, the rate of progress with additional work has shifted from the turnaround time of the contracting process at the Savannah Corps of Engineers (CESAS) (preparing scopes of work, negotiating and awarding of contracts, and costly, overly stringent site safety plans) to the rate of response by SCDHEC to ARCADIS document submittals. The availability of funds has been excellent from USAEC headquarters. Regulatory review time to approve proposed work, will improve if we can retain our current SCDHEC staff on board. HQ USAEC interaction has promoted FTJA management involvement due to high profile of GFPR contract for the remaining AEDB-R sites. The race to reach RC status will also depend on the review time at USAEC for Decision Documents (DDs) on LUCs, IMs and Final Remedies. Current efforts are to seek final remedies through IMs at several sites.

- FTJA-1 and -2 are the most recent and the oldest former municipal landfills, respectively, that require partial supplemental cover, enhanced drainage controls, LUCs and LTM. A focused CMS is to follow for both sites.
- FTJA-3 is another former municipal landfill requiring more substantial grading and cover work. It is the largest landfill. ARCADIS plans to supplement the existing cover as necessary and establish LUCs including LTM.
- FTJA-13 and FTJA-36 have commingling TCE & POL GW plumes. The TCE plume is currently being treated by enhanced reductive dechlorination. FTJA-36 is primarily a POL site with some light non-aqueous phase liquid (LNAPL). ARCADIS is considering more aggressive soil and LNAPL removal that may achieve NFA. A focused CMS is to follow for FTJA-13.
- FTJA-30 has only a hot spot of LNAPL with its surrounding GW restored to below detection by the IM performed in FY00-01, where in excess of 1200 cubic yards (cy) of POL impacted soils and 20,000 gallons of GW tainted with POL LNAPL were removed. A supplemental IM has been proposed which will remove the remaining LNAPL and result in NFA required for this site.
- FTJA-6 and FTJA-21 are construction and debris Landfills. FTJA is considering an IM for these sites to address the physical closure requirements. This effort will also include the recycling of surficial concrete debris. A focused CMS is to follow for both sites that will add LUCs to the IM remedy.
- FTJA-32 suffers primarily from POL and metals in soil and GW. After two separate rounds of IM the majority of source materials have been removed prior to the PBC. A Corps awarded RFI (phase II) is nearing completion and then ARCADIS will take the site over.
- FTJA-40 has no known releases to GW or subsurface soils. But, limited detections in surface soils and GW resulted in a request for additional confirmation sampling.

Investigations are nearing completion for all the aforementioned sites, but need to be approved by SCDHEC before final remedies can be fully evaluated.

1980

- Installation Assessment of FTJA, Report No. 165. Prepared by US Army Toxic and Hazardous Materials Agency (USATHAMA), March 1980.

1988

- Update of the Initial Installation Assessment. Prepared by USATHAMA, April 1988.

1989

- Interim Final Report, Hazardous Waste (HW) Consultation No. 37-26-0215-89, Evaluation of SWMUs. Prepared by US Army Corps of Engineers, September 1989.

1990

- Phase I Site Investigation Report for RI/FS –Weapons Cleaning Area. Prepared by Law Environmental, Inc. (LAW), January 1990.
- Final Pre-Investigation Submittal for RI/FS –Weapons Cleaning Area. Prepared by LAW, February 1990.
- Final WP for RI/FS –Weapons Cleaning Area. Prepared by LAW, February 1990.
- GW Quality Study No. 38-26-8822-90. Prepared by USAEHA, February 1990.
- RFA Report of FTJA, USEPA Contract No. 68-W9-0040. Prepared by A.T. Kearney, Inc., May 1990.

1991

- Project Master WP, Facility Investigation – Active Ordnance Disposal Site (RST4). Prepared by Donohue & Associates, Inc. (Donohue), January 1991.
- Revised Chemical Data Acquisition Plan, Addendum to Project Master WP, Facility Investigation – Active Ordnance Disposal Site (RST4). Prepared by Donohue, March 1991.
- Final Quality Control Summary Report for Abandoned Sewage Treatment Plant. Prepared by LAW, August 1991.
- Final WPs for RFI at Wonson/Inchon Explosive Ordnance Disposal Sites. Prepared by LAW, September 1991.
- Final Site Investigation for Abandoned Sewage Treatment Plan. Prepared by LAW, November 1991.
- Final Report for RI, Phase II – Weapons Cleaning Area. Prepared by LAW, November 1991.

1992

- Quality Control Summary Report for RFI at Wonson/Inchon Explosive Disposal Sites. Prepared by LAW, January 1992.

1992, continued

- Preliminary SI for FTJA Military Reservation. Prepared by Advanced Sciences, Inc. (ASI), January 1992.
- Final Site Investigation Report, Facility Investigation – Active Ordnance Disposal Site (RST4). Prepared by Donohue, March 1992.
- Preliminary SI Report for FTJA Military Reservation. Prepared by ASI, May 1992.
- Hazard Ranking System Score Summary Report. Prepared by ASI, July 1992.
- Final Engineering Report – Soil and GW Testing at Three UST Locations. Prepared by Ebasco Environmental, August 1992.

1993

- Quality Control Summary Report for RFI/CMS Wonson and Inchon Explosive Ordnance Disposal Sites. Prepared by LAW, May 1993.
- Revised Phase III RFI/CMS WP – Weapons Cleaning Area. Prepared by RUST Environmental and Infrastructure (RUST), September 1993.
- Draft RFI/CMS WP for Unit Training Equipment Site Septic Tank Systems at SC National Guard. Prepared by Kleen Sites Geoservices, Inc., September 1993.
- CS WPs for 14 SWMUs and AOC C. Prepared by CESAS – Corps of Engineers Division of Hazardous, Toxic & Radioactive Waste Section, September 1993.
- Revised RFI/CMS WPs for 14 SWMUs. Prepared by Ecology and Environment, Inc. (E&E), December 1993.

1995

- Revised Site Assessment WP for Ten UST Sites. Prepared by E&E, February 1995.
- 7 UST Site Investigation WPs. Prepared by Bregman & Company, Inc. (Bregman & Co.), June 1995.
- Revised CS WPs for 14 SWMUs and AOC C. Prepared by CESAS, September 1995.

1996

- Site Investigation WPs for 1 UST Site & 1 AST. Prepared by Foster-Wheeler, February 1996.
- CS Report for 14 SWMUs and AOC C. Prepared by E&E, March 1996.
- RCRA Closure Sampling Report, 48th Explosive Ordnance Detachment Demolition Range Open Burn/Open Detonation (OB/OD) Unit. Prepared by E&E, May 1996.
- 10 UST Phase II Site Investigation WPs. Prepared by CESAS, June 1996.
- Site Investigation WPs for 1 UST Site & 1 AST. Prepared by Foster-Wheeler, November 1996.

1997

- Phase II Site Assessment Reports for 10 UST Sites. Prepared by E&E, July 1997.
- CS Reports for 14 SWMUs and AOC C. Prepared by E&E, July 1997.

1997, continued

- Draft Final Investigation Derived Waste Management Plan. Prepared by CESAS, July 1997.
- Subsurface Investigation Report for Relative Risk Ranking of Six SWMU Sites. Prepared by CESAS, October 1997.
- Plan of Operation for Interim Removal Action Free Product Recovery Phase III RFI Former Weapons Cleaning Area (SWMU#14) Above-Ground Fuel Tank Area (AOC B). Prepared by RUST, November 1997.

1998

- RFI Report for SWMU 47, Former Roads and Grounds Storage Area. Prepared by E&E, March 1998.
- CS Report for SWMUs 7, 8, and 9, Former HW Storage Bldg. 2640, 2641, 2642.
- RFI Report for SWMU 10, Former PCB Storage Bldg. Prepared by E&E, April 1998.
- RFI Report for SWMUs 1, 2, 3, Inactive Landfills 3, 1, and 2. Prepared by E&E, May 1998.
- Addendum Number One to RCRA Closure Sampling Report, 48th Explosive Ordnance Detachment Demolition Range OB/OD Unit. Prepared by E&E, July 1998.
- Phase III Site Assessment WP for 5 UST Areas. Prepared by E&E, July 1998.
- WP for Treatability Study in Support of Remediation by Natural Attenuation at Site 9431-F (Site No. 6). Prepared by Parsons Engineering, July 1998.
- WP for Completion of GW Sampling and CAPs at UST Nos. 1 and 6. Prepared by E&E, July 1998.
- RFI Report for SWMUs 6, 20, 21, 23, 30, and 48. Prepared by E&E, August 1998.
- Pre-Final Phase EEE RFI Report Former Weapons Cleaning Area (SWMU#14) Above-Ground Fuel Tank Area (AOC B). Prepared by RUST, December 1998.

1999

- WP Addendum No. 2 for Phase II RFI, Wonson and Inchon Explosive Ordnance Disposal Sites (SWMUs 12 and 17). Prepared by LAW, January 1999.
- WP for the Phase I RFI at SWMU 49, Weapons Pool Inactive Solvent Tank, Building 3058. Prepared by E&E, February 1999.
- RCRA Closure Certification Report, 48th Explosive Ordnance Detachment Demolition Range OB /OD Unit, SWMU 13. Prepared by E&E, May 1999.
- IM WP, Inactive Acid Pit, SWMU 48. Prepared by Omega Environmental Services, August 1999.

1999, continued

- CS Report-Comment Responses and Revisions, SWMUs 7, 8, and 9. Prepared by E&E, August 1999.
- Supplemental CS Report-Comment Responses and Revisions, SWMUs 5, 11, 29, 33, 34, 38, and AOC C. Prepared by E&E, August 1999.
- Phase I RFI/CMS WP for SWMUs 1, 2, and 3. Prepared by E&E, August 1999.
- Progress Report – Phase II RFI, Wonson and Inchon Explosive Ordnance Disposal Sites (SWMU 12 and 17). Prepared by LAW, August 1999.
- Ground-Water Monitoring Report for the Phase III RFI Former Weapons Cleaning Area (SWMU#14) Above-Ground Fuel Tank Area (AOC B). Prepared by RUST, August 1999.
- Interim Technical Report – Phase II RFI, Wonson and Inchon Explosive Ordnance Disposal Sites (SWMUs 12 and 17). Prepared by LAW, August 1999.
- Comment Responses and Revisions – Phase III RFI Report, Former Weapons Cleaning Area (SWMU#14) Above-Ground Fuel Tank Area (AOC B). Prepared by RUST, September 1999.
- WP for Background Study. Prepared by E&E, November 1999.

2000

- IMs WP, Inactive Acid Pit, SWMU 48. Prepared by Omega Environmental Services, January 2000.
- Draft Phase III RFI WP Addendum, Former Weapons Cleaning Area (SWMU#14) Above-Ground Fuel Tank Area (AOC B). Prepared by RUST, May 2000.
- IMs WP, Former Bldg. 9428 Wash Pad & O/W Separator, SWMU 38. Prepared by Omega Environmental Services, May 2000.
- IMs WP Former Roads and Grounds Storage Area, SWMU 47. Prepared by Omega Environmental Services, June 2000.
- Phase II RFI WP for SWMUs 6, 20, 21, 23, and 30. Prepared by E&E, November 2000.
- Comment Responses and Revisions – Phase III RFI WP Addendum, Former Weapons Cleaning Area (SWMU#14) Above-Ground Fuel Tank Area (AOC B). Prepared by RUST, November 2000.
- Draft Soil Background Study Report. Prepared by E&E, November 2000.
- Supplemental IMs WP, Inactive Acid Pit, SWMU 48. Prepared by J.J. Sosa, November 2000.

2001

- Final Soil Background Study Report. Prepared by E&E, January 2001.
- Draft Phase II RFI Report, Wonson and Inchon Explosive Ordnance Disposal Sites (SWMUs 12 and 17). Prepared by LAW, January 2001.

2001, continued

- Phase II RFI WP, SWMUs 1, 2, and 3 (Closed Landfills 3, 1, and 2, respectively). Prepared by CH2MHill, January 2001.
- SWMU 49 Phase I RFI Report Review Response to Comments (RTC)/Rev. Pgs. Prepared by E&E, April 2001.
- Letter of Intent to Sell Property. Prepared by Ft. Jackson Environmental Mgt Office, June 2001.
- SWMU 47 IM Report. Prepared by CESAS, June 2001.
- SWMU 14/AOC B, Quarterly Report for Addendum No. 1 Phase III RFI Report. Prepared by Earthtec, June 2001.
- SWMU 14/AOC B, Quarterly Report for Addendum No. 1 Phase III RFI Report. Prepared by Earthtec, August 2001.
- SWMU 49 IM and Phase II RFI WP. Prepared by CESAS, August 2001.
- SWMU 47 IM Report. Prepared by CESAS, August 2001.
- SWMU 14/AOC B, Quarterly Report for Addendum No. 1 Phase III RFI Report. Prepared by Earthtec, November 2001.
- Single Soldiers Barracks Complex (FTJA-38) Assessment Report. Prepared by Foster-Wheeler, November 2001.
- SWMUs 6, 20, 21, 25, 30 Phase II RFI WP. Prepared by E&E, November 2001.
- SWMU 30 Phase II RFI Report. Prepared by E&E, December, 2001.
- SWMU 16 CS Report Evaluation of RTCS. Prepared by CESAS, December 2001.
- SWMU 14/AOC B, Quarterly Report for Addendum No. 1 Phase III RFI Report. Prepared by Earthtec, December 2001.

2002

- SWMU 51 – SWMU Assessment Report. Prepared by Ft. Jackson Environmental Mgt Office, January 2002.
- SWMU 51 – Removal Action (IM) WP. Prepared by Ft. Jackson Environmental Mgt Office, January 2002.
- SWMU 49 IM WP – Revised. Prepared by CESAS, January 2002.
- SWMU 5 LTM Proposal. Prepared by Ft. Jackson Environmental Mgt Office, April 2002.
- SWMU 12 & 17 Final Phase II RFI Report. Prepared by Law Engineering (Law Gibb Group), April 2002.
- SWMU 30 Phase II RFI Report. Prepared by E&E, May 2002.
- SWMUs 1, 2, 3, Phase II RFI WP- Revised. Prepared by CH2MHill, June 2002.
- SWMUs 7-10 RFI WP Responses to SCDHEC Comments. Prepared by CH2MHill, August 2002.
- SWMU 47 Final Phase II RFI Report. Prepared by CESAS, August 2002.
- SWMU 49 Final Phase II RFI Report. Prepared by CESAS, August 2002.
- SWMU 51 IM WP. Prepared by CESAS, August 2002.
- SWMU 48 Final Supplemental IM WP. Prepared by J.J. Sosa, September 2002.
- AOC B Letter of Tanks & Contaminant Barriers Removal. Prepared by Ft. Jackson Environmental Mgt Office, October 2002.

2002, continued

- SWMU 14/AOC B Final Phase II RFI Report Addendum #1 and Response to SCDHEC Comments. Prepared by Earthtec, October 2002.
- SWMU 20 Phase II RFI Report. Prepared by E&E, December 2002.
- SWMU 21 Phase II RFI Report. Prepared by E&E, December 2002.
- SWMU 23 Phase II RFI Report. Prepared by E&E, December 2002.
- SWMUs 1, 2, 3, Revised Final Phase II RFI WP with responses to SCDHEC Comments – Revised. Prepared by CH2MHill, December 2002.

2003

- AOC B IM/Sampling WP. Prepared by CESAS, January 2003.
- SWMUs 1, 2, 3 Revised Final Phase II RFI WP RTCs & Replacement Pages. Prepared by CH2MHill, February 2003.
- SWMU 38 IM Report. Prepared by OMEGASYS, March 2003.
- SWMU 49 Phase II RFI/IM Report – Final. Prepared by CESAS, March 2003.
- SWMU 51 IM Report. Prepared by CESAS, March 2003.
- SWMU 6 Phase II RFI Report. Prepared by E&E, March 2003.
- SWMU 14/AOC B Final Phase III RFI Addendum No. 1 Report Replacement Pages. Prepared by Earthtec, April 2003.
- SWMU 30 Phase II RFI Report, Replacement Pages/RTCs. Prepared by E&E, April 2003.
- SWMUs 12 & 17 Phase II RFI Report Replacement Pages/RTCs. Prepared by Law Gigg Group, April 2003.
- SWMU 16 Remediation Report. Prepared by CESAS, May 2003.
- SWMU 47 IM Report RTCs and Rev. pp. Prepared by CESAS, May 2003.
- SWMU 52 Assessment Report. Prepared by Ft. Jackson Environmental Mgt Office, May 2003.
- SWMU 20: Phase II RFI Report (RTCs & Revision Pp). Prepared by E&E, July 2003.
- SWMU 51: IMs Report (RTCs & Rev.Pp). Prepared by CESAS, July 2003.
- SWMU 38: IM Report (RTCs & Revision Pages). Prepared by CESAS, July 2003.
- IAP. Prepared by Ft. Jackson Environmental Mgt Office, August 2003.
- SWMU 12: IM WP. Prepared by J.J. Sosa, August 2003.
- SWMU 23: IM WP. Prepared by J.J. Sosa, August 2003.
- SWMU 10: RFI Report Addendum. Prepared by CH2MHill, August 2003.
- SWMU 7, 8, 9: RFI Report. Prepared by CH2MHill, August 2003.
- SWMU 23: Phase II RFI Report. Prepared by E&E, August 2003.
- SWMU 21: Phase II RFI Report (RTC). Prepared by E&E, October 2003.
- SWMU 5: Report summarizing well sampling activities. Prepared by CESAS, October 2003.

2003, continued

- SWMU 48: IM Report (RTCs & Revision Pages). Prepared by J.J. Sosa, October 2003.

2004

- Landfill Cover Assessment (SWMUs 1, 2, 3, 5, 6, 21). Prepared by ARCADIS, February 2004.
- Site-Wide Field Sampling Plan. Prepared by ARCADIS, March 2004.
- SWMU 23: Revised Final IM WP. Prepared by J.J. Sosa, April 2004.
- SWMU 23: Phase II RFI Report (Revision pp & RTCs). Prepared by E&E, May 2004.
- SWMU 14 & AOC B: IM WP. Prepared by ARCADIS, May 2004.
- SWMU 5: Letter Report (RTCs). Prepared by CESAS, June 2004.
- SWMU 48: Revised Final IM Report. Prepared by J.J. Sosa, June 2004.
- SWMU 6: Revised RFI Report & RTCs. Prepared by E&E, June 2004.
- SWMU 21: Phase II RFI Report (Revision Pages & RTCs). Prepared by E&E, June 2004.
- SWMU 14 & AOC B: IM WP. Prepared by ARCADIS, July 2004.
- SWMU 5: Focused CMS WP. Prepared by ARCADIS, July 2004.
- SWMU 2: RTCs to the Phase II RFI Report. Prepared by ARCADIS w/ CH2MHill, November 2004.
- Site-Wide: RTCs on the Facility Sampling Plan. Prepared by ARCADIS, July 2004.
- SWMU 16: Final CS Report & RTCs. Prepared by Ft. Jackson Environmental Mgt Office, July 2004.
- SWMU 2: Phase II RFI Report. Report prepared by CH2MHill, July 2004.
- Site-Wide: Quality Assurance Project Plan. Prepared by ARCADIS, July 2004.
- Site-Wide: Letter Regarding LUCs. Prepared by Ft. Jackson Environmental Mgt Office, July 2004.
- SWMU 48: Phase II RFI WP. Prepared by E&E, August 2004.
- SWMU 47: IM WP. Prepared by ARCADIS, August 2004.
- SWMU 47: Phase II RFI Report RTCs. Prepared by CESAS, September 2004.
- Site-Wide: RTCs to the QAPP. Prepared by ARCADIS, September 2004.
- Jenkins Street Point of Interest: SWMU Assessment Report (SAR). Prepared by Ft. Jackson Environmental Mgt Office, September 2004.
- Site-Wide: Revised Field Sampling Plan. Prepared by ARCADIS, October 2004.
- FTJA-40: RTCs & Revised SAR. Prepared by ARCADIS, October 2004.
- SWMU 44: Proposed Supplemental RFI Activities. Prepared by Kleen Sites Geoservices, Inc., October 2004.
- SWMU 48: IM Report (RTCs & Revision Pages). Prepared by J.J. Sosa, November 2004.
- SWMU 5: Focused CMS Report & CMI WP. Prepared by ARCADIS, November 2004.

2004, continued

- SWMU 44: Proposed Supplemental RFI Activities. Prepared by Kleen Sites Geoservices, Inc., October 2004.
- SWMU 48: IM Report (RTCs & Revision Pages). Prepared by J.J. Sosa, November 2004.
- SWMU 5: Focused CMS Report & CMI WP. Prepared by ARCADIS, November 2004.
- SWMU 44: Revised Proposed Supplemental RFI Activities. Prepared by Kleen Sites Geoservices, Inc., December 2004.
- Site-Wide: Historical Records Review (HRR). Prepared by Malcolm Pirney, December 2004.
- SWMUs 1 & 2: IM WP. Prepared by ARCADIS, December 2004.

2005

- SWMUs 7-9: RTCs on the Phase I RFI Report. Prepared by ARCADIS, January 2005.
- SWMU 10: RTCs on the Phase II RFI Report. Prepared by ARCADIS, January 2005.
- SWMU 52 RTCs on the SAR. Prepared by ARCADIS, January 2005.
- SWMU 48: Phase II RFI WP. Prepared by ARCADIS, January 2005.
- SWMU 21: Consolidation/Investigation WP. Prepared by ARCADIS, January 2005.
- SWMU 21: RTCs to the Phase II RFI Report. Prepared by ARCADIS, January 2005.
- SWMU 6: Revised Phase II RFI Report & RTCs. Prepared by ARCADIS, January 2005.
- SWMU 14 & AOC B: IM Progress Report/WP Addendum. Prepared by ARCADIS, January 2005.
- SWMU 3: Phase II RFI Report. Prepared by ARCADIS, February 2005.
- SWMU 1: Phase II RFI Report. Prepared by ARCADIS, March 2005.
- SWMU 7-10 Historical Analytical Data Package. Prepared by Arcadis, March 2005.
- SWMU Assessment Report (JSPOI). Prepared by EEI, March 2005.
- SWMUs 1 & 2: IM WP (RTCs & Revision Pages). Prepared by ARCADIS, April 2005.
- Final SWMU 5 CMS Report/CMI WP. Prepared by ARCADIS, May 2005.
- Soil Sampling plan for well near SWMU 21 (SAR AOC K). Prepared by EEI/GNR, May 2005.
- SWMU 38 CS Addendum Report. Prepared by CE-SAS, May 2005.
- SWMU 52 CS WP. Prepared by ARCADIS, May 2005.
- SWMU 21 IM WP. Prepared by ARCADIS, May 2005.
- SWMU 7, 8, 9, 10 RFI Report. Prepared by ARCADIS, June 2005.
- SWMU 47 IM Summary and WP Addendum. Prepared by ARCADIS, July 2005.
- SWMU 7-10: RFI Report. Prepared by ARCADIS, August 2005.

2005, continued

- SWMU 21: Addendum to RFI Phase II Report Version 3. Prepared by ARCADIS, September 2005.
- SWMU 6: RTCs to RFI Phase II Report Version 3. Prepared by ARCADIS, October 2005.
- SWMU 7-10: Phase II RFI Replacement Pages. Prepared by ARCADIS, October 2005.
- SWMU 52: Draft CS Report. Prepared by ARCADIS, October 2005.
- SWMU 47: IM Summary and WP Addendum. Prepared by ARCADIS, November 2005.
- SWMU 1 & 2: IM Completion Report. Prepared by ARCADIS, November 2005.
- SWMU 7-10: Phase II RFI Report Revision 3. Prepared by ARCADIS, November 2005.

FORT JACKSON

Installation Restoration Program
Site Descriptions included in the PBC

FTJA-001

PBC Fort Jackson PBC

SITE DESCRIPTION

This site exists only as a funding tracking site for all the PBC sites. Therefore, no remediation “technology” or “action items” exist in FTJA-001. The funding exhibited in AEDB-R for FTJA-001 represents the unfunded costs for the PBC. Originally, FTJA-001 was created to compile all PBC Remediation Sites (FTJA-01, 02, 03, 05, 06, 07, 08, 13, 21, 32, 34, 36, 38, 39, and 40).

CLEANUP STRATEGY

See the above-listed sites for individual Cleanup Strategies.

STATUS

REGULATORY DRIVER: RCRA C

RRSE: High

CONTAMINANTS OF CONCERN:
N/A

MEDIA OF CONCERN: N/A

Phases	Start	End
RFA.....	198911	199001
CMI(C)	200309	200610
CMI(O)	200611	201309

RIP DATE: 200611

RC DATE: 201309

FTJA-01

Inactive Sanitary Landfill 3 (SWMU1)

(Active Sanitary Landfill 3) (PAGE 1 OF 2)

SITE DESCRIPTION

FTJA-01 is located north of Semmes Road at the end of Ivy Road. FTJA-01 was a trench and fill landfill, which operated from 1974 to 1988, under SCDHEC Permit # DWP-098. During the years of operation the permit was amended to expand the landfill as necessary to maintain new fill area. The last 20-acre section of the landfill was closed in April 1994. The entire landfill is regulated by SCDHEC Solid Waste Management Regulations and is monitored in accordance with the 30-year Post Closure Care and Monitoring Plan approved by SCDHEC. The IRP is funding assessments and restoration only on the 50 acre portion of the landfill that did not receive waste after 1988. The following information pertains to the 50 IRP acres.

STATUS

REGULATORY DRIVER: RCRA D

RRSE: High

CONTAMINANTS OF CONCERN:
Metals, VOCs, SVOCs, Pesticides

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
RFA	198911	199001
IRA.....	200502	200511
RFI/CMS	199308	200809
LTM	200810	203809

RC DATE: 200809

Three GW monitoring wells were installed in June 1980, and were sampled regularly for two years. Based on elevated levels of barium and lead detected in the landfill monitoring wells between 1980 and 1982, a RFI was required by Ft. Jackson's RCRA Part B Permit. In 1997-98, five monitoring wells were installed as part of the initial RFI. As part of the RCRA closure of the landfill in 1995, five more wells were installed to RCRA standards and the original three wells were abandoned. Since then the ten existing monitoring wells were sampled in spring 2002 for the second phase of the RFI.

A Phase I RFI was completed in August 1999. Investigation results indicate soil and GW impact, and additional work was completed to determine the nature and extent of contamination. Methane off-gassing is being monitored.

The draft Phase II RFI WP was submitted during FY01 and was approved by the SCDHEC on March 3, 2003.

FTJA-01

Inactive Sanitary Landfill 3 (SWMU1) (Active Sanitary Landfill 3) (PAGE 2 OF 2)

The WP was implemented and a Phase II RFI Report was finalized and submitted in FY05. Results of the Phase II RFI do not indicate any immediate impact to human health or environment. The Phase II RFI Report was conditionally approved in FY05. The conditions of the approval will be met in the CMS.

In addition, an IM was performed in FY05 that included the placement of additional soil cover in deficient areas, grading and seeding of the former mulch site, construction of stormwater drainage structures, and removal of surface waste and debris.

CLEANUP STRATEGY

This site is within the PBC.

A CMS to propose and select the corrective action alternatives will be prepared. The completed IM should address most, if not all, of the physical closure requirements.

The final remedy is expected to include cover maintenance and inspection, GW monitoring and periodic reports. LUCs will be implemented to mitigate potential impacts to human health and the environment.

FTJA-02

Closed Sanitary Landfill 1 (SWMU 2)

SITE DESCRIPTION

FTJA-02 is a closed 15-acre landfill located southwest of Tank Hill on the southeast side of Lee Road. This site served as FTJA's primary landfill from 1941 to 1951. Refuse was burned and buried in trenches at the site. Types of waste disposed of probably included domestic wastes, POL wastes, water and wastewater treatment plant sludges, and general refuse. The US Army Reserve Center building is now located upgradient of the closed landfill, and the Palmetto Lodge, a lodging facility, is located down gradient from the site, surrounded in the rear by the toe of the closed landfill.

The Phase I RFI was completed in 1999. Results indicated soil, sediment, and GW were impacted. Base housing is located adjacent to the southeastern edge of the landfill. SCDHEC will require LUCs due to potential for human exposure.

The Phase II RFI WP was submitted during FY01 and was approved by the SCDHEC on March 3, 2003.

The WP was implemented and a Phase II RFI Report was submitted in FY04. Results of the Phase II RFI do not indicate any immediate impact to human health or environment. Based upon comments from SCDHEC, a revised Phase II RFI Report is being prepared and will be finalized in FY06.

In addition, an IM was performed in FY05 that included the placement of additional soil cover in deficient areas, construction of stormwater drainage structures, and removal of surface waste and debris.

CLEANUP STRATEGY

This site is within the PBC.

A CMS to propose and select the corrective action alternatives will be prepared. The completed IM should address most, if not all, of the physical closure requirements.

The final remedy is expected to include cover maintenance and inspection, GW monitoring and periodic reports. Land use controls will be implemented to mitigate potential impacts to human health and the environment.

STATUS

REGULATORY DRIVER: RCRA D

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, Metals, SVOCs, Pesticides

MEDIA OF CONCERN:
Groundwater, Soil, Sediment,
Surface Water

Phases	Start	End
RFA	198911	199001
IRA.....	200502	200511
RFI/CMS	199308	200809
LTM	200810	203809

RC DATE: 200809

FTJA-03

Closed Sanitary Landfill 2 (SWMU 3)

SITE DESCRIPTION

FTJA-03 is a closed 95-acre landfill located between Washington and Ewell Roads, east of the DRMO complex. The site was used from 1951 to 1974. Open burning was conducted in pits behind the DRMO facility for the first 10 years. The burned waste and unburned refuse was buried in trenches. Types of waste disposed of probably included domestic wastes, POL wastes, water and wastewater treatment plant sludges, and general refuse. Severe differential settling (up to five feet) is evident in the trenches used during the final years of the landfill.

Phase I RFI completed Aug. 1999. Results indicate soil and GW impact, and additional work was completed to substantiate and determine the extent. Approximately one-half of the DRMO facility is located on the Landfill. Methane off-gassing is a concern.

The Phase II RFI WP was submitted during FY01 and was approved by the SCDHEC on March 3, 2003. The WP was implemented and the Phase II RFI Report was submitted in FY05. The revised Phase II RFI Report was conditionally approved in FY05. Conditions to the Phase II RFI will be met in the CMS report. To address SCDHEC concerns regarding the GW monitoring network, three additional monitoring wells were installed and all wells sampled in FY05.

CLEANUP STRATEGY

This site is within the PBC.

A CMS to propose and select the corrective action alternatives will be prepared. An IM may be conducted to address most, if not all, of the physical closure requirements.

The final remedy is expected to include cover maintenance and inspection, GW monitoring and periodic reports. LUC will be implemented to mitigate potential impacts to human health and the environment.

STATUS

REGULATORY DRIVER: RCRA D

RRSE: High

CONTAMINANTS OF CONCERN:

VOCs, Metals, Chlorinated Solvents

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
RFA	198911	199001
IRA.....	200602	200612
RFI/CMS.....	199308	200709
LTM	200810	203809

RC DATE: 200709

FTJA-05

Inactive WETSITE Landfill (SWMU 5)

SITE DESCRIPTION

FTJA-05 is a closed construction debris landfill located at the southeastern corner of FTJA, in the SCARNG area. This site operated from the early 1940s to the mid 1950s, and it was a trench and fill type landfill approximately two acres in size. The site is completely vegetated by native grasses with no signs of erosion. A recreational pond, constructed in 1984, is located 150 yards downslope of the landfill. CS was required by the RCRA Part B Permit, and was completed in 1997. Results from the 1997 CS Report required additional CS work, which was completed in FY02. No contamination was detected.

This site is located on FTJA property currently leased to the National Guard. If monitoring is required beyond five years the site will be administratively managed and funded by the National Guard Bureau.

A soil cover assessment indicated that the existing cover is adequate. A cover assessment was completed and the results were included in the CMS report. The CMS report was approved by SCDHEC in FY05 and the RCRA Permit modification is pending.

CLEANUP STRATEGY

This site is within the PBC.

Following the permit public comment period, the approved remedy will be implemented in FY06. The selected final remedy for this site includes LUCs consisting of the installation of IC signs and periodic cover inspections.

STATUS

REGULATORY DRIVER: RCRA D

RRSE: Medium

CONTAMINANTS OF CONCERN:
None

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
RFA.....	198911	199001
CS.....	199109	200108
LTM.....	200607	203607

RC DATE: 200108

FTJA-06 Inactive Tank Hill Landfill (SWMU 6)

SITE DESCRIPTION

FTJA-06 is a former construction debris landfill covering approximately 14 acres. It is located at the corner of Hartsville Guard and Lee Roads, in the area known as "Tank Hill". This landfill consists of steep slopes and gullies, and has two access points. Building contractors used this site to dispose of construction debris. The Phase I RFI was completed in August 1998.

The Phase II RFI WP was submitted during FY01 and was approved by the SCDHEC on March 3, 2003. The WP was implemented and a Phase II RFI Report has been submitted, reviewed and conditionally approved in FY05.

CLEANUP STRATEGY

This site is within the PBC. It is likely that an IM will be conducted at this site in FY06 to address the exposed concrete debris.

A CMS to propose and select the corrective action alternatives will be prepared.

The final remedy is expected to include cover maintenance and inspection, GW monitoring and periodic reports. LUC will be implemented to mitigate potential impacts to human health and the environment.

STATUS

REGULATORY DRIVER: RCRA D

RRSE: Medium

CONTAMINANTS OF CONCERN:
Metals, SVOCs, Pesticides

MEDIA OF CONCERN: Soil,
Groundwater

<u>Phases</u>	<u>Start</u>	<u>End</u>
RFA.....	198911	199001
IRA.....	200603	200612
RFI/CMS	199308	200809
LTM.....	200810	201809

RC DATE: 200809

FTJA-13

Former Weapons Cleaning Area (SWMU 14)

(Tanks 1619 & 1700 – (AOC B)) (PAGE 1 OF 2)

SITE DESCRIPTION

This combined site includes FTJA-13 and FTJA-36.

FTJA-13 consists of former Building 1605 and the surrounding area, located at the intersection of Lee and Washington Roads. Weapons cleaning operations were conducted from the early 1940s to 1965. Building 1605 housed a large vat containing TCE and other vats containing sodium dichromate-rich solutions for weapons cleaning and blueing. Wastes were reportedly discharged into drains connected to a terra-cotta drain field, which then discharged to ditches leading to Wildcat Creek. These vats were removed along with building 1605.

FTJA-36 consisted of a pair of 200,000-gallon aboveground tanks located near Central Energy Plant #3, at Washington Road and Lee Road. The site is located near the southern border of the installation. The tanks were used to store diesel fuel.

The site is located near the southern border of the installation, and the proximity to the base boundary poses a potential for off-post contamination. GW flows in two directions at this site, discharging to both branches of Wildcat Creek above the confluence.

The Phase III RFI is complete. The Phase III RFI report was reviewed in FY02, and has been revised and approved.

Due to overlapping contaminant plumes, FTJA-13 and FTJA-36 constituted a single investigation. An IRA has been conducted at FTJA-36 to remove free-phase petroleum. The second IRA was conducted for the ASTs and the re-sampling of soils. A third IRA consisting of in situ bio-remediation has been initiated to address GW at FTJA-13 and soil and source removal of LNAPL at FTJA-36 (expected complete in late FY06).

STATUS

REGULATORY DRIVER: RCRA C

RRSE: High

CONTAMINANTS OF CONCERN:
TCE, Chromium

MEDIA OF CONCERN: Soil,
Groundwater, Surface Water,
Sediment

Phases	Start	End
RFA	198911	199001
RFI/CMS.....	199001	200609
IRA	200407	200608
CMI(C).....	200407	200609
CMI(O).....	200407	201709
LTM	201710	201809

RIP DATE: 200609

RC DATE: 201709

FTJA-13

Former Weapons Cleaning Area (SWMU 14)
(Tanks 1619 & 1700 – (AOC B)) (PAGE 2 OF 2)

CLEANUP STRATEGY

This site is within the PBC.

CMS is planned to begin in FY06.

The final RA at FTJA-13 is anticipated to be MNA with a contingency for additional in situ bioremediation and will include one year of quarterly long-term monitoring and LUCs.

FTJA-36 will be proposed for NFA after the IRA.

FTJA-21

Inactive Range 17 Landfill (SWMU 21)

SITE DESCRIPTION

FTJA-21 is located near the intersection of Hartsville Guard and Old Hartsville Guard Roads. This construction debris landfill is approximately 15 acres in area, and was used to dispose of inert debris from road construction and barracks demolition. The site is overgrown with low brush and early growth trees. Debris was trucked to the site, and dumped on the surface and into borrow pits.

The boundaries of the landfill have been revised since the Phase I RFI, after historical aerial photograph reviews and thorough site walkovers performed by the Tier I Partnering Team. The Phase II RFI report was submitted to and reviewed by SCDHEC. The report has been revised and was conditionally approved in late FY05.

A Characterization and Consolidation WP was submitted and approved in FY05. The field work was also conducted in FY05 to remove and consolidate the surface debris. Additional buried debris was also strategically excavated to reduce the landfill size. Sampling has been completed at this site and indicates there is no GW contamination.

CLEANUP STRATEGY

This site is within the PBC.

It is likely that an IM will be conducted at this site in FY06 to address any remaining physical closure requirements.

A CMS to propose and select the corrective action alternatives will be prepared.

The final remedy is expected to include cover maintenance and inspection, GW monitoring and periodic reports. LUC will be implemented to mitigate potential impacts to human health and the environment.

STATUS

REGULATORY DRIVER: RCRA C

RRSE: Medium

CONTAMINANTS OF CONCERN: SVOCs

MEDIA OF CONCERN: Soil

Phases	Start	End
RFA.....	198911	199001
RFI/CMS	199309	200609
IRA.....	200509	200609
LTM.....	200810	201809

RC DATE: 200609

FTJA-30

Former Roads & Grounds Storage Area (SWMU 47)

SITE DESCRIPTION

FTJA-30 is a grass covered area, approximately 40' x 25', located behind Shed 2538. This area is located immediately upslope of a tributary to Wildcat Creek. The area was used to store and clean an asphalt spreader. Diesel fuel was used to clean the spreader and was allowed to run onto the ground. The area was also used to temporarily store abandoned fuel oil tanks, some of which leaked.

Three wells were installed during the Phase I RFI. Soil and GW are impacted.

An IM was conducted to remove contaminated soil and free product. Soil in excess of 1,200 cy were excavated, tested, and removed as were 20,000 gallons of GW and free product.

An additional IM began in FY04 and is ongoing. Free product removal and GW sampling have been performed.

A Phase II RFI was conducted to fill data gaps for soil and GW screening. The Phase II RFI report will be completed in conjunction with the IM in FY06.

CLEANUP STRATEGY

This site is within the PBC. An IM WP addendum has been submitted to SCDHEC for approval that includes soil excavation and free product removal. It is projected that NFA will be recommended following the proposed IM.

STATUS

REGULATORY DRIVER: RCRA C

RRSE: Medium

CONTAMINANTS OF CONCERN:
POL, Metals

MEDIA OF CONCERN: Soil,
Groundwater, Surface Water

Phases	Start	End
RFA.....	198911 199001
IM.....	200409 200612
RFI/CMS	199305 200612

RC DATE: 200612

FTJA-32

Inactive Acid Pit, Bldg 6586 (SWMU 48)

SITE DESCRIPTION

FTJA-32 is located within and adjacent to building 6586, off Lee Road, north of Imboden Street. The battery room in Building 6586 formerly contained a floor drain, which was connected to an acid pit. Battery acid, which spilled during battery recharge operations, was neutralized. The neutralized solution was hosed down into the floor drain. The acid neutralization pit was operated from the late 1950s to approximately 1989. IM was funded under Operations and Maintenance Account (OMA), and implemented during late FY99. Removal activities consisted of removing an O/W separator, neutralized battery acid drainage pit, and ~800 cy of overburden and contaminated soil. The extensive soil stockpile required re-sampling after the removal contractor submitted non-representative composite samples. The approved Soil Stockpile Sample Report recommendation to dispose of soil as non-hazardous material was executed in FY00.

Piping and structures (acid neutralization basin, floor drains, and sump) associated with the acid pit were removed during an initial IM and a Supplemental IM. The Supplemental IM field work was completed and the report was submitted to SCDHEC in FY04.

The Phase II RFI WP was approved in FY05. This plan included the installation of two monitoring wells and resampling of the existing wells. The Phase II RFI Report will be completed in FY06.

CLEANUP STRATEGY

This site is within the PBC.

The completion of the Phase II RFI should fill data gaps for soil and GW screening and for the risk assessment. If no further investigation is warranted, it is likely that a CMS will be prepared to evaluate appropriate remedial alternatives. It is likely that LTM requirements may be limited to LUCs and monitoring.

STATUS

REGULATORY DRIVER: RCRA C

RRSE: Medium

CONTAMINANTS OF CONCERN:
POL, Metals, VOCs, SVOCs

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
RFA.....	198911 199001
RFI/CMS	199308 200809
LTM.....	200810 201809

RC DATE: 200809

Former UST Contamination Areas (PAGE 1 OF 2)

SITE DESCRIPTION

FTJA had 38 former leaking USTs at 24 locations. FTJA-34 consists of 13 IRP eligible sites spread throughout the post. The tanks were taken out of service in 1984 and removed between 1991 and 1993. The tanks ranged in size from 500 gallon to 12,000- gallon capacity and contained diesel, fuel oil, or gasoline. A total of nine sites (of the original 13) have NFA as of 2003. The remaining four sites (UST Sites 1, 4, 6, and 8) are in the Sampling and Analysis Plan CAP (semi-annual monitoring & corrective action plan - analogous to FS) phase. Other UST sites not qualifying for ER,A funds are being managed with OMA funds. All the UST sites are regulated by Risk Based Corrective Action guidelines adapted by the SCDHEC in 1995 and revised in January 1998.

RA has been implemented at two sites, including soil removal and oxygen release compound treatment (Site No. 6) and Biox injections at UST 4.

The revised LTM CAP for UST 1 was approved in FY05. CAPs were also submitted to SCDHEC for USTs 6 and 8. A CAP for LTM will be prepared for UST 4 in FY06. Monitoring reports for USTs 1, 4, 6, and 8 have been submitted to SCDHEC for review and approval.

CLEANUP STRATEGY

This site is within the PBC and has been fully funded.

- UST #1 is expected to follow the course of MNA as its final remedy.
- UST #4 should begin the course of MNA as its final remedy in FY06.
- USTs #6 and #8 will require more IM (IRA) work, followed by CAPs. Both should start MNA as its final remedy by Dec 2006. UST #6 only needs a modified CAP. UST #8 will need a new CAP

STATUS

REGULATORY DRIVER: RCRA I

RRSE: High

CONTAMINANTS OF CONCERN:
POL constituents

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
ISC	199202	199203
INV	199309	199912
CAP	199912	200309
DES	200308	200512
IRA.....	200105	200212
IMP(C)	200308	200709
IMP(O)	200603	201302
LTM.....	201302	201402

RIP DATE: 200709

RC DATE: 201302

Former UST Contamination Areas (PAGE 2 OF 2)

All four (USTs 1, 4, 6, and 8) remaining sites are likely to go into MNA. However, UST 8 may require limited soil treatment (hotspots). One UST (6) may require additional GW remediation.

LTM will include two quarters of GW monitoring.

FTJA-39

Inactive Weapons Pool Tank (SWMU 49)

SITE DESCRIPTION

FTJA-39 was discovered in FY98 during a monitoring well abandonment for an NFRAP UST site. It is located in the back of Building 3058, which is currently occupied by the 748th EOD Detachment Unit. The tank consisted of a concrete vault used as a waste solvent holding tank for the weapons cleaning activity at the former Weapons Pool Area. The Weapons Pool stored, cleaned, and repaired small arms issued to recruits in training. Weapons cleaning operations were conducted at FTJA-39 from 1972 until the mid 1980s. Subsequently, the Weapons Pool began using self-contained Safety Kleen solvent baths. The site lies upgradient of and adjacent to the base boundary with Interstate 77. FTJA sampled contents of the tank (primarily rainwater) and adjacent soils and submitted a SWMU Assessment Report in FY98.

Results of the Phase I RFI showed detectable levels of naphthalene and RCRA metals in GW and soils at concentrations exceeding applicable screening criteria.

An IM was completed in FY02, which consisted of removal of the vault, the majority of the pipeline, and ~18 cy of soil. A Phase II RFI was conducted concurrently with the removal action. The Phase II RFI Report was approved in FY03 in which MNA was proposed as a final remedy. Additional sampling was requested to show MNA was appropriate. Four quarters of additional sampling was performed by the PBC contractor. Results of the additional sampling do not support MNA at this time.

CLEANUP STRATEGY

Additional investigation will be performed by CESAS during FY06. An IM, completed with non-PBC funds, will include soil excavation.

This site is within the PBC. If MNA is determined to be feasible, a focused CMS will be prepared based on additional GW monitoring to support MNA as the final remedy. LTM will include one year of quarterly GW monitoring.

STATUS

REGULATORY DRIVER: RCRA C

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
RFA.....	199803	199805
CS.....	199805	199807
RFI/CMS	199808	200309
DES	200309	200509
IRA.....	200103	200206
CMI(C)	200407	200709
CMI(O)	200407	201709
LTM.....	201710	201809

RIP DATE: 200709

RC DATE: 201709

Tank Repair Shop (SWMU 52) (PAGE 1 OF 2)

SITE DESCRIPTION

The former Tank Repair Shop (TRS) is located on a currently vacant tract of land, with some paved areas remaining. I-77 is east of the site and west of the site is what was formerly the last stretch of Fort Jackson Boulevard, which connected with Percival Road downgradient of the site. There is little recorded information concerning this site, but interviews with past employees provided some information concerning its past use. The site was part of an old 10th Transportation Unit. It consisted of Building 13-181 and 13-182 Wash Rack. Both were demolished by an unidentified Department of Transportation (DOT) contractor in 1992. In addition, a smokestack was supposedly located at the NW side of 13-181. The old wash rack concrete pad, approximately 40 feet by 88 feet, is present. There is a circular path where vegetation is sparse, as if it had been worn down by repetitive driving of heavy vehicles around the approximately 50-foot diameter circle. The TRS site was used most recently by the DOT in the early 1990s to park their equipment during the construction of I-77 that now cuts through FTJA and separates this tract from the Cantonment Area. A 1,000 gallon heating oil tank was also located adjacent to Building 13-181 and removed by the DOT, during the construction on I-77.

Six samples were collected via a Geoprobe rig in May 2001. These soil samples indicated the low concentrations of Polynuclear Aromatic Hydrocarbons, VOCs, and one SVOC (naphthalene). An approximately four inch thick puddle of what appeared to be TAC (tarry asphalt compound), that was likely spilled/deposited by DOT vehicles along the length of the wash rack drainage, was located at the low point of the concrete pad. The TAC accumulation was removed using a backhoe, until a bright red clayey soil was encountered beneath. The soil was sampled for Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene. Elevated TPH detections at two samples on the lower end of the wash pad drainage prompted FTJA to remove more of the soil and collect additional samples beneath. In April 2003, while digging into that soil, it was discovered that below it was a concrete trough. The concrete structure appeared to be a drainage trench for the wash pad with its upper surface edges fashioned such that a metal grate could be fitted. In addition, at the downward end of the trench, a twelve-inch diameter terra cotta drainpipe was encountered and observed to be full of water. The concrete trough was left intact and backfilled with clean soil.

STATUS

REGULATORY DRIVER: RCRA C

RRSE: Low

CONTAMINANTS OF CONCERN: SVOCs

MEDIA OF CONCERN: Soil

Phases	Start	End
RFA.....	200205	200209
CS.....	200210	200304
RFI/CMS	200305	200809

RC DATE: 200809

Tank Repair Shop (SWMU 52) (PAGE 2 OF 2)

A SAR was submitted to SCDHEC in May 2003. SCDHEC issued comments and requested modification to the report in a letter dated July 2003. A revised report to respond to those comments was submitted to SCDHEC in 2004. Additional comments were received and a response was submitted back to SCDHEC in December 2004. Based upon the review, SCDHEC requested confirmation sampling be conducted. This sampling was initiated during 2005 and will continue in 2006.

CLEANUP STRATEGY

This site is within the PBC.

Following completion of sampling, it is anticipated that NFA will be required for this site.

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Installation Restoration Program
Site Description not included
in the PBC

FTJA-23

Old Remagen Impact Range (SWMU 23)

SITE DESCRIPTION

FTJA-23 is located north of Boyden Arbor Road near the northern border of the installation. The range is approximately 3.4 acres in size, and was used prior to 1979 for grenade training. The area is eroded and lacks vegetation. Delineated Wetlands are down gradient of the range.

Sampling detected estimated concentrations (J qualified) of explosives, arsenic, chromium and lead in GW. The Phase II RFI was approved with conditions to confirm and characterize the GW quality. The IM WP to install a soil cover was reviewed by SCDHEC. However, the IM was abandoned until the whole Remagen Range becomes non-operational. SCDHEC stated that the metals and explosive constituents in the GW will eventually require further investigation of the extent of GW impact.

CLEANUP STRATEGY

The GW was sampled during four quarters in FY05. Results are reported in an addendum to the RFI II Report. Reallocation of funds for IM to install erosion control measures and clean up extraneous surface debris, has been abandoned due to lack of a sufficient regulatory driver. A focused CMS Report in FY06, will document LUCs currently in place and any GW issues resulting from the RFI II Addendum in FY06. Final GW delineation and RA has been deferred until the range is non-operational or transferred. Semi-annual GW monitoring for metals and explosives is being programmed in AEDB-R from 2007 until 2012 and then annually for the outyears.

STATUS

REGULATORY DRIVER: RCRA C

RRSE: High

CONTAMINANTS OF CONCERN:
Ordnance Constituents, Explosives, Metals

MEDIA OF CONCERN: Soil, Groundwater, Surface Water, Sediment

<u>Phases</u>	<u>Start</u>	<u>End</u>
RFA	198911	199005
RFI/CMS	199308	200512
CMI(C)	200206	200512
LTM.....	200801.....	203809

RC DATE: 200512

IRP NFA Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	RC Date
FTJA-04	WETSITE LANDFILL (SWMU 4)	Received Permit in October 1991 making site NFA/Study Completed, No Cleanup Required	198905
FTJA-07	FORMER HW STOR BUILDINGS 2640, 2641, 2642	Clean closure received from SCDHEC December 21, 2005/Study Completed, No Cleanup Required	200509
FTJA-08	PCB STG BLD 2668	Clean closure received from SCDHEC in December 21, 2005/Study Completed, No Cleanup Required	200509
FTJA-09	Waste Oil Tanks	SCDHEC Letter dated July 25, 2001/Study Completed, No Further Cleanup Required	200108
FTJA-10	Inactive Wonson OB/OC Ground (SWMU 12)	Any RA has been deferred until the range is non-operational or transferred/Study Completed, No Cleanup Required,	200509
FTJA-11	RST-4 OB/OD Ground	Clean closure received from SCDHEC in August 9, 1999/Other	199203
FTJA-12	Former Cardboard Recycling Station Bldg 3580	Received Permit in October 1991 making site NFA/Study Completed, No Cleanup Required	198905
FTJA-14	Veterinary Incinerator	Received Permit in October 1991 making site NFA/Study Completed, No Cleanup Required	198905
FTJA-15	Weston Lake Sewage Treatment Plant	Received Permit in October 1991 making site NFA/Study Completed, No Cleanup Required	198905
FTJA-16	Former Sewage Treatment Plant	NFA received from SCDHEC August 19, 2004/Other	199908
FTJA-17	Former Used Oil Burning Boilers Plant 3	Received Permit in October 1991 making site NFA/Study Completed, No Cleanup Required	199005
FTJA-18	Inchon OB/OD Ground	Site within Impact Range Fan. RFI approved. Final remedy deferred until Range non-operational or transferred/Other	200303
FTJA-19	Former TASC HW SSA	NFA received from SCDHEC July 1998/Study Completed, No Cleanup Required	199701
FTJA-20	Former PCB Storage Area, Bldg 2569	NFA received from SCDHEC August 18, 2003/Study Completed, No Cleanup Required	200307
FTJA-22	Former TASC Waste Solvent Cabinet	NFA received from SCDHEC July 1998/Study Completed, No Cleanup Required	199701

IRP NFA Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	RC Date
FTJA-24	Old Rocket Grenade Range	NFA received from SCDHEC July 1998/Study Completed, No Cleanup Required	199701
FTJA-25	Former DRMO Battery Storage Area	NFA received from SCDHEC July 1998 /Study Completed, No Cleanup Required	199701
FTJA-26	Energy Plant #3 Drainage Area	NFA received from SCDHEC July 25, 2001/Study Completed, No Cleanup Required	200108
FTJA-27	Former Bldg F2182 Wash Pad & O/W Sep	NFA received from SCDHEC July 25, 2001Study Completed, No Cleanup Required	200108
FTJA-28	Bldg 9428 Wash Pad & O/W Separator	NFA received from SCDHEC June 8, 2005/All Required Cleanup(s) Completed	200506
FTJA-29	Former Tank 5453	NFA received from SCDHEC July 1998/Study Completed, No Cleanup Required	199506
FTJA-31	Former Shed 1617 Area	NFA received from SCDHEC July 25, 2001/Study Completed, No Cleanup Required	200108
FTJA-33	Former Bldg 1611 Vehicle Wash Pad & O/W Separator	NFA received from SCDHEC July 25, 2001/Study Completed, No Cleanup Required	200108
FTJA-36	Tanks 1619 & 1700 – (AOC B)	This site is being addressed with FTJA-13 under the PBC/Other	200309
FTJA-37	Former Varsol UST	NFA received from SCDHEC June 12, 2003/ Study Completed, No Cleanup Required	200309
FTJA-38	Single Soldiers Housing Barracks	NFA received from SCDHEC November 30, 2005/Study Completed, No Cleanup Required	200511

Initiation of IRP: 1988

Past Phase Completion Milestones

1986

- RCRA Facility Assessment (RFA) (FTJA-37)

1987

- RI (FTJA-37)

1989

- RFA (FTJA-1-21, 36)

1991

- RFA (FTJA-22, 23, 24, 25, 26, 27, 28, 29, 31, 33)
- CS (FTJA-20)
- RI (FTJA-13, 36)

1992

- CS (FTJA-2, 3)

1993

- RFA (FTJA-30, FTJA-32, FTJA-34)

1994

- CS (FTJA-11)

1995

- CS (FTJA-29 = AOC A)

1997

- CS (FTJA-19, 22, 24, 25 = SWMUs 18, 19, 24, 27, respectively)
- RC (FTJA-19, 22, 24, 25 = SWMUs 18, 19, 24, 27, respectively)

1998

- SAR (FTJA-39 = SWMU 49)

1999

- CS (FTJA-7 = SWMUs 7, 8, 9 - All three are under this FTJA#)
- RC (FTJA-11 = SWMU 13)
- RC (FTJA-16 = SWMU 16)

2000

- IM (FTJA-30, 32 = SWMUs 47, 48, respectively)

2001

- CS (FTJA-5, 9, 26, 27, 28, 31, 33 = SWMU 5, 11, 29, 34, 38, AOC C, & 33, respectively)
- RC (FTJA-5, 9, 26, 27, 28, 31, 33 = SWMU 5, 11, 29, 34, 38, AOC C, & 33, respectively)

2003

- RFI (FTJA-13/36 = SWMU 14 & AOC B)
- RFI (FTJA-10, 18 = SWMUs 12 & 17)
- RFI (FTJA-39 = SWMU 49)
- NFA (FTJA-20, 37 = SWMU 20 & 30)
- NFA (FTJA-34, UST #21)

2004

- NFA (FTJA-16 = SWMU 16), Former Sewage Treatment Plant
- NFA (SWMU 40 = SCARNG Wash Pad)

2005

- Clean Closure (FTJA-7 = SWMUs 7, 8 & 9) Former HW Storage Bldgs 2640, 2641 & 2642
- Clean Closure (FTJA-8 = SWMU 10), PCB Storage Bldg 2668
- NFA (FTJA-28 = SWMU 38), Former Sewage Treatment Plant
- NFA (FTJA-38 = UST #22), Single Soldiers Barracks Complex
- RFI (FTJA-6 = SWMU 6)
- RFI (FTJA-21 = SWMU 21)
- RFI (FTJA-23 = SWMU 23)

Projected Record of Decision (ROD)/DD/Approval Dates:

- FTJA-06 DD – 200612
- FTJA-13 DD - 200609
- FTJA-23 DD - 200609
- FTJA-39 DD – 200609
- FTJA PBC DD - 2006010

Schedule for Next Five Year Review: 2005-2010

Estimated Completion Date of IRP (including LTM phase): 2038

FORT JACKSON IRP SCHEDULE

(Based on current funding constraints)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTJA-001	CMI(C)									
FTJA-01	LTM									203809
FTJA-02	LTM									203809
FTJA-03	LTM									203809
FTJA-05	LTM									203607
FTJA-06	LTM									201809
FTJA-13	CMI(O)									201709
	LTM									201809
FTJA-21	LTM									201809
FTJA-23	LTM									203809
FTJA-32	LTM									201809
FTJA-34	LTM									
FTJA-39	CMI(O)									201709
	LTM									201809

IRP Costs

Prior Years Funds

Total Funding up to FY04: \$23,217K

Year	Site Information	Expenditures	FY Total
FY05	RAC FTJA-01	\$39.9K	
	RI FTJA-01	\$2.0K	
	RI FTJA-02	\$9.0K	
	RI FTJA-03	\$2.0K	
	RI FTJA-06	\$3.0K	
	RAC FTJA-10	\$5.0K	
	RI FTJA-13	\$4.0K	
	RAC FTJA-23	\$19.0K	
	RI FTJA-23	\$26.7K	
	RI FTJA-23	\$3.1K	
	SI FTJA-28	\$7.0K	
	RI FTJA-30	\$5.0K	
	RI FTJA-32	\$5.0K	
	RAC FTJA-34	\$10.0K	
	RAC FTJA-38	\$8.0K	\$148.7K

Total Prior Year Funds: \$23,365.7K

Current Year Requirements

Year	Site Information	Expenditures	FY Total
FY 06	RAC FTJA-001	\$40.0K	
	RAC FTJA-001	\$1845.1K	
	RAC FTJA-02	\$24.0K	
	LTM FTJA-10	\$10.0K	
	RI FTJA-23	\$15.0K	
	RI FTJA-32	\$15.0K	
	RAO FTJA-39	\$60.0K	\$2009.1K

Total Funding FY06: \$2,009.1K

Total Future Requirements: \$ 7,532.0K

Total IR Program Cost (from inception to completion of the IRP): \$ 32,906.8K

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Military Munitions Response Program

Total AEDB-R MMRP Sites / AEDB-R sites with RC: 10/3

AEDB-R Site Types

5 Small Arms Ranges

5 Unexploded Munitions/Ordnance

Most Widespread Contaminants of Concern: Unexploded Ordnance (UXO)

Media of Concern: GW, Soil

Completed REM/IRA/RA: None

Total MMRP Funding

Prior years (up to FY05): \$ 718,500

Current Year (FY06): \$ 0

Future Requirements (FY07+): \$ 8,998,000

Total: \$ 9,716,500

Duration of MMRP

Year of MMRP Inception: 2002

Year of MMRP RC: 2014

Year of MMRP Completion Including LTM: 2045

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

The DoD has established the MMRP under Defense Environmental Restoration Program (DERP) to address DoD sites with munitions and explosives of concern (MEC) including UXO, discarded military munitions (DMM), and munitions constituents (MC).

The United States (US) Army's (Army) inventory of Closed, Transferring, and Transferred (CTT) Military ranges and sites, has identified sites eligible for action under MMRP.

The MMRP eligible sites include other than operational ranges where UXO, DMM and MC is known or suspected and the release occurred prior to September 30, 2002. Properties classified as operational ranges are not eligible and, therefore, are excluded from the MMRP program.

The MMRP began in the late 1990s as a result of key drivers such as processes outlined in the National Contingency Plan (40 CFR 300) as authorized by CERCLA, 42 US Code (U.S.C.) 9605, as amended by the SARA, Pub. L. 99-499.

While it is DoD's goal to address MMRP sites under CERCLA, the Army recognizes that some installations, including FTJA, will need to address these sites under the RCRA, Corrective Action (CA) program.

The process began with three phases of range inventories. Phase 1 consisted of installations (FTJA) filling out an initial data call issued by TRADOC, where they sought information about ranges on their installations. USAEC managed the implementation Phases 2 and 3 of the MMRP inventory.

The Phase II inventory dealt with active and inactive range considerations. Phase III involved the CTT range inventory conducted in 2002. Included were extensive mapping, data collection for upload to the Army Range Inventory Database, conducting of an assessment on explosives safety risk using the Risk Assessment Code (RAC) methodology for CTT ranges or sites with UXO or DMM identified in the inventory, and the determination of which sites on the inventory potentially qualify for the MMRP.

The Phase 3 Final CTT Range Inventory Report, prepared by USAEC contractor, Malcolm Pirney, Inc., for FTJA, is dated June 2003. The CTT marked the completion of the Preliminary Assessment (PA) Phase of work under CERCLA and the RCRA RFA phase of work under RCRA CA. In September 2004, followed the HRR by Malcolm Pirney for USAEC/FTJA. The HRR included a limited scope records search to document historical and other known information, and to facilitate decisions on what information is needed to determine the next steps in the CERCLA/RCRA process. Upon completion of the HRR report, the SI was initiated in FY05.

MMRP Contamination Assessment

MMRP Contamination Assessment Overview, Continued

The SI will investigate the eight sites that form 4 AOCs to be added to the FTJA RCRA Permit as AOC D, AOC E, AOC F and AOC G. AOC D consists of the Camp Jackson Ranges. AOC E comprises the Small Arms Ranges East of Chestnut Road. AOC F is the Live Hand Grenade Court 2. And, AOC G consists of the FTJA Flight Club (FJFC) Salerno Ranges.

Cleanup Exit Strategy:

FTJA plans to complete all SIs by FY06 and execute follow on phases/actions as required in the individual site cleanup strategies.

2003

- Phase 3 CTT Range Inventory Report, Malcolm Pirney, June 2003, FTJA, SC

2004

- HRR, Malcolm Pirney, September 2004, FTJA, SC

2005

- Draft SI WP, Malcolm Pirney, March 2005, FTJA, SC

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Military Munitions Response Program Site Descriptions

FTJA-001-R-01

Camp Jackson Ranges

SITE DESCRIPTION

The Camp Jackson Ranges encompass approximately 62 acres in the Cantonment Area. The site consists of five ranges that were used for small arms training during World War I. These ranges were used over a short period of time more than 85 years ago. The area has been redeveloped and/or used for timber harvesting. Range features (firing lines/target areas/backstop berms) are no longer discernable, but historical information provides general locations. The Camp Jackson Ranges include the 1000 yard Range, 600 Yard Range, Machine Gun Range, Pistol Range and 300 Yard Range.

STATUS

REGULATORY DRIVER: RCRA C

RAC SCORE: 5 - Negligible Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
RFA.....	200208.....	200306
CS	200404.....	200604

RC DATE: 200604

CLEANUP STRATEGY

The CS will be completed. Following the CS it is assumed NFA will be necessary.

FTJA-002-R-01

Small Arms Ranges East of Chestnut

SITE DESCRIPTION

The Small Arms Ranges East of Chestnut Road encompasses approximately 475 acres. The site is comprised of four ranges. The firing lines and target areas for these ranges account for a much smaller area (approximately 80 acres).

The ranges were used from the 1940s through 1970s for small arms training. The area has been re-developed for use as a school and recreation area (ball fields) and/or used for timber harvesting. Range features are no longer discernable at the site, but historical information provides general locations.

STATUS

REGULATORY DRIVER: RCRA C

RAC SCORE: 5 - Negligible Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
RFA.....	200208.....	200306
CS	200404.....	200604

RC DATE: 200604

CLEANUP STRATEGY

The CS will be completed. Following the CS it is assumed NFA will be necessary.

FTJA-003-R-01

Live Hand Grenade Court 2

SITE DESCRIPTION

The Live Hand Grenade Court 2 was located east of Chestnut Road in the area overlapped by the Camp Jackson Ranges and Small Arms Ranges East of Chestnut Road. The site encompasses approximately 33 acres. The hand grenade court was used during the 1940s and 1950s. The period of use and types of grenades (live and practice) were approximated based on mapping information reviewed. It was assumed that live, as well as practice grenades may have been used on the range. This area was also used for field fortification training in the 1970s and 1980s indicating it has been extensively disturbed since its use as a hand grenade court.

CLEANUP STRATEGY

A RFI/CMS including the installation of GW monitoring wells will be completed. A MEC Site Characterization and Removal Assessment will be completed followed by a MEC Removal Action and MEC Monitoring.

STATUS

REGULATORY DRIVER: RCRA C

RAC SCORE: 2 - Serious Risk

CONTAMINANTS OF CONCERN:
UXO, Metals

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
RFA.....	200208.....	200306
CS	200404.....	200604
RFI/CMS	200810.....	201009
DES.....	201210.....	201304
CMI(C)	201305.....	201409
LTM.....	201410.....	204509

RC DATE: 201409

FTJA-004-R-01

FJFC Salerno Ranges

SITE DESCRIPTION

The FJFC Salerno Ranges includes a 23-acre area located in the northern portion of the FJFC area. The Salerno Ranges were used for rocket, rifle grenade, hand grenade, and mine training. Most range features are no longer discernable at the site, but historical information provides general locations for the firing lines and target areas.

CLEANUP STRATEGY

A RFI/CMS including the installation of GW monitoring wells will be completed. A MEC Site Characterization and Removal Assessment will be completed followed by a MEC Removal Action and MEC Monitoring.

STATUS

REGULATORY DRIVER: RCRA C

RAC SCORE: 2 - Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
RFA.....	200208	200306
CS.....	200404	200604
RFI/CMS	200810	201009
DES	201210	201304
CMI(C)	201305	201409
LTM.....	201410	204509

RC DATE: 201409

FTJA-005-R-01

FJFC Saint Lo Range

SITE DESCRIPTION

The FJFC Saint Lo Range includes a 19-acre area in the southern and western portion of the FJFC area. The Saint Lo Range was used as a machine gun range in the 1950s, 1960s, and 1970s.

This site also includes the overlapping range fans for other small arms training ranges that were located at the FJFC. Some range features are still discernable at the site and historical information provides general locations for the firing lines and target areas. The site includes a cleared, level area that is surrounded by pine trees and grass. The flat, cleared portion of the site has been used as an airstrip for radio control model airplanes since the late 1980s.

STATUS

REGULATORY DRIVER: RCRA C

RAC SCORE: 5 - Negligible Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
RFA.....	200208.....	200306
CS	200404.....	200604
RFI/CMS	200810.....	201009
DES.....	201210.....	201304
CMI(C)	201305.....	201409

RC DATE: 201409

CLEANUP STRATEGY

A RFI/CMS including the installation of GW monitoring wells will be completed followed by excavation and off-site waste transportation and disposal.

FTJA-006-R-01

Mortar Range 5A, 7, and 8 SF

SITE DESCRIPTION

The Mortar Range 5a, 7, and 8 Safety Fans were located in the northern section of the Weston Lake Area. The approximately 306-acre area was once part of the safety fans associated with three mortar ranges used in the 1940s. This site includes the portions of these mortar ranges that were designated as the safety fans/buffer areas only. Because the site does not include the firing lines or impact areas for these ranges, mortars are not expected. The Dismounted Submachine Gun No. 1 Range, the Moving Vehicle Submachine Gun Range, and the Dismounted Submachine Gun No. 2 Range overlap the mortar range area. The Mortar Range 5a, 7, and 8 Safety Fans are now part of the Weston Lake Area. However, the mortar range safety fan area has not been improved and is not accessible from the main Weston Lake Recreation Area facilities.

STATUS

REGULATORY DRIVER: RCRA C

RAC SCORE: 3 - Moderate Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
RFA.....	200208.....	200306
CS	200404.....	200604
RFI/CMS	200810.....	201009
DES.....	201210.....	201304
CMI(C)	201305.....	201409

RC DATE: 201409

CLEANUP STRATEGY

A RFI/CMS including the installation of GW monitoring wells will be completed followed by excavation and off-site waste transportation and disposal.

FTJA-007-R-01

D and MV Submachine Gun Area

SITE DESCRIPTION

The Dismounted and Moving Vehicle Submachine Gun Area was located in the northern part of the Weston Lake Recreation Area. The site consists of the 14 acres associated with the Dismounted Submachine Gun No. 1 Range, the Moving Vehicle Submachine Gun Range, and the Dismounted Submachine Gun No. 2 Range that are not overlapped by the Mortar Range 5a, 7, and 8 Safety Fans. The site was used for small arms training prior to construction of Weston Lake. Range features are no longer discernable at the site, but historical information provides general locations for the firing lines and target areas. A portion of the submachine gun area, which is located within the main Weston Lake Area Recreation Area, has been improved with a boat ramp, boat docks, picnic areas, and rental cabins.

STATUS

REGULATORY DRIVER: RCRA C

RAC SCORE: 5 - Negligible Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
RFA.....	200208	200306
CS.....	200404	200604
RFI/CMS	200810	201009
DES	201210	201304
CMI(C)	201305	201409

RC DATE: 201409

CLEANUP STRATEGY

A RFI/CMS including the installation of GW monitoring wells will be completed followed by excavation and off-site waste transportation and disposal.

MMRP NFA Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	RC Date
FTJA-008-R-01	Mortar Range	In the subsequent SI it was made part of FTJA-006-R-01 and therefore this range has been made RC/Other.	200602
FTJA-009-R-01	Rifle Grenade Range NR2	As part of the SI it was determined that this range was located on an operational range area and therefore ineligible for ER,A MMRP funds and has therefore been made RC.	200602
FTJA-010-R-01	Submachine Gun Area	As part of the HRR/SI the area of this range was split into FTJA-007-R-01 and FTJA-006-R-01. This range has therefore been made RC/Other.	200602

MMRP Schedule

Initiation of MMRP: 2001

Past Phase Completion Milestones

2003

- RFA completion at FTA-001-R-01, FTA-002-R-01, FTA-003-R-01, FTA-004-R-01, FTA-005-R-01, FTA-006-R-01, FTA-007-R-01, FTA-008-R-01, FTA-009-R-01, FTA-010-R-01.

Projected ROD/DD Approval Dates: Unknown

Projected Construction Completion: 2014

Schedule for Five Year Reviews: Unknown

Estimated Completion Date of MMRP including LTM: 2045

FORT JACKSON MMRP SCHEDULE

(Based on current funding constraints)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTJA-003-R-01	RFI/CMS									
	DES									
	CMI(C)									
	LTM									204509
FTJA-004-R-01	RFI/CMS									
	DES									
	CMI(C)									
	LTM									204509
FTJA-005-R-01	RFI/CMS									
	DES									
	CMI(C)									
FTJA-006-R-01	RFI/CMS									
	DES									
	CMI(C)									
FTJA-007-R-01	RFI/CMS									
	DES									
	CMI(C)									

MMRP Costs

Prior Years Funds

Total Funding up to FY04: \$621K

Year	Site Information	Expenditures	FY Total
FY 05	CS	\$97.5 K	\$97.5 K

Total Prior Year Funds: \$718.5K

Current Year Requirements

Year	Site Information	Requirements	FY Total
FY 06		\$0 K	\$0 K

Total Requirements FY06: \$0 K

Total Future Requirements: \$8,998.0 K

Total Program Cost (from inception to completion of the MMRP): \$9.716.5K

Community Involvement

FTJA is located within the city limits of Columbia, South Carolina, (Population >100,000). The City of Columbia is located within Richland County.

In the past, FTJA has published public notices in a local newspaper, soliciting interest in establishing a RAB. Based on the response to the public notices, it was determined that there was not sufficient community interest to sustain a RAB for FTJA.

In the fall of 2004, FTJA published public notices in *The State* newspaper on three separate occasions. The notices encouraged the public to call the IRP manager if interested in participating in a RAB at FTJA. No responses were received.

No RAB has been established to date. Future efforts will continue to solicit for the formation of a RAB.

The Community Relations Plan was updated in summer FY05.